

Electrical Distribution Monitoring for GNFC Ltd., Gujarat

Gujarat Narmada Valley Fertilizers Company Ltd. (GNFC), is a joint sector enterprise promoted by the Government of Gujarat and the Gujarat State Fertilizer Company Ltd.(GSFC). It was set up in Bharuch, Gujarat in 1976. Located at Bharuch in an extremely prosperous industrial belt, GNFC draws on the resources of the natural wealth of the land as well as the industrially rich reserves of the area.

Panel	Slave No.	Feeder Description	Relay Date	Relay Time
1	1	MC-3404 [SPARE]		
2	2	MC-3404A		
3	3	MC-3404B		
4	4	TR # 125	0 : 0 : 0	0 : 0 : 0
5	5	TR # A [SPARE]	0 : 0 : 0	0 : 0 : 0
6	6	TR # 3	0 : 0 : 0	0 : 0 : 0
7	7	TR # 1 [SR-745]	0 : 0 : 0	0 : 0 : 0
8	8	TR # 1 [POM]	0 : 0 : 0	0 : 0 : 0
9	9	TR # 1	0 : 0 : 0	0 : 0 : 0
10	10	TR # 2	0 : 0 : 0	0 : 0 : 0
11	11	TR # 2 [SR-745]	0 : 0 : 0	0 : 0 : 0
12	12	TR # 2 [POM]	0 : 0 : 0	0 : 0 : 0
13	13	TR # 4	0 : 0 : 0	0 : 0 : 0
14	14	TR # 4	0 : 0 : 0	0 : 0 : 0
15	15	TR # B [SPARE]	0 : 0 : 0	0 : 0 : 0
16	16	TR # 126	0 : 0 : 0	0 : 0 : 0
17	17	TR # 1	0 : 0 : 0	0 : 0 : 0
18	18	MC-3404R		
19	19	MC-2236		
20	20	TR # 3 [SPARE]	0 : 0 : 0	0 : 0 : 0
21	21	TR # 3 [POM]	0 : 0 : 0	0 : 0 : 0

GNFC started its manufacturing and marketing operations by setting up in 1982, one of the world's largest single-stream ammonia-urea fertilizer complexes.

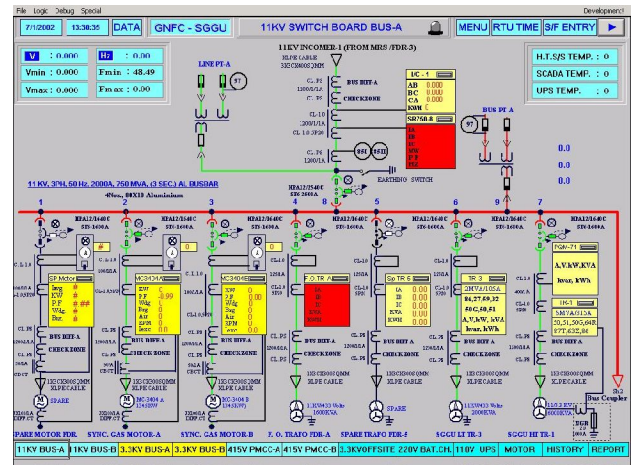
GNFC is also aware of its social responsibilities and ensures that its fertilizers reach the farmers on time and in adequate quantity. It also makes available a wide range of fertilizers to the farming community, regular supplies of fertilizers to the distribution channel and thus enhances the company's turnover

The power distribution to the plant and its various sections must be adequately monitored. A control room at the receiving end does this from the nearest sub-station. The control room monitors and governs

Motor Tag No.	Sr. No.	Monthly Run Hours	Cumulative Run Hours	Reset	Breaker Operation	PRINT
A11 1KV MOTORS						
SPARE	92401865	0.00	3.00			
MC-3404A	92401866	192.69	192.69			
MC-3404B	92401868	127.59	147.79			
MC-3404R	92401869	45.15	45.15			
MC-2236		192.69	192.69			
B13 3KV MOTORS						
MC-2237 (60)		0.00	3.00			
MC-3402A (F10-A)	32475-A-411-021	192.67	192.67			
MC-3401A (NG-A)	32475-A-411-022	116.91	116.91			
MC-3401R	32475-A-411-023	93.94	93.94			
MC-3402R (SF)		0.00	3.00			
SPARE		0.00	3.00			
C11 1KV MOTORS OF SGGU (HIS V)						
MC-3403 (CAFAB)	NB 30521	192.61	192.61			
MP-3404A (SPV-A)	NB 30708	192.62	192.62			
MP-1422R	30707	245.32	245.32			
MP-1422A (CMP)	30702	139.91	139.91			
MP-3404B (SPV-B)	NB 30709	0.00	3.00			
MP-1422 (SP)		0.00	3.00			
D11 1KV MOTORS OF MCHANOUL I						
MP1401		146.14	146.14			
MP1410		0.00	0.00			
MP1412		146.39	146.39			
MP1418		44.64	44.64			
MP1414		147.99	147.99			
MP1416		146.37	146.37			
MP1418		87.94	87.94			
MP120R		0.00	0.00			
MP121R		0.00	0.00			
MP101R		44.69	44.69			
MP111		2.47	2.47			
MP142R		44.61	44.61			
MP113		147.97	147.97			
MP141R		44.62	44.62			
MP108R		44.62	44.62			
MP116R		104.65	104.65			
MP120		192.69	192.69			
MP121		192.69	192.69			
E11 1KV MOTORS SGGU						
L.O.F. CH404A		0.00	0.00			
L.O.F. CH40R		6.45	6.45			
L.O.F. CH40A		72.91	72.91			
AG2 3000		192.69	192.69			
MP 302 DOZNG		192.69	192.69			
MP 301 DOZNG		192.69	192.69			
L.O.F. CH40R		44.69	44.69			
L.O.F. CH40R		110.97	110.97			
PS400		190.00	190.00			
AG2 3000		0.00	0.00			
AG2 3000		0.00	0.00			

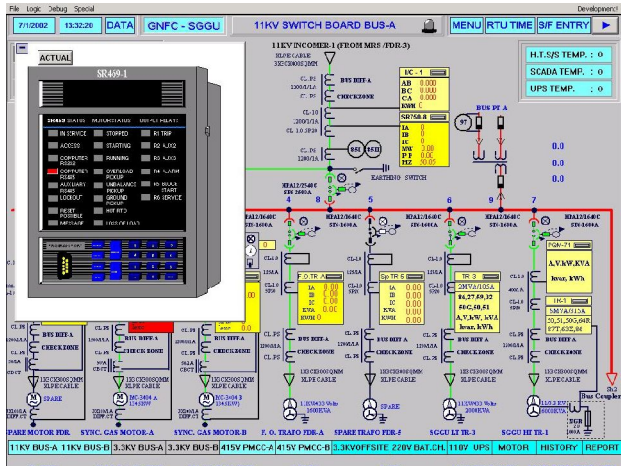
the load factor, power consumption, regulation and faults in the entire plant. Excessive power consumption must be tripped. If one section of the plant requires more power, the control room must decide to trip power supply to another section of the plant

Our NT-based HMI is used to connect GE Multilin Relays, which brings in electrical data from the plant. The communication to the relays is through the RS 485 bus using the popular serial protocol MODBUS-RTU. The Operator consoles are in redundant mode and can detect each other's healthiness.



Automatic reports are generated regarding the consumption of power, which allow the operators to know the detailed power consumption at the end of every shift and cost implications. Security enables

different levels of operators to access the system based on shift and seniority.



A log is also maintained which can identify which operator has logged into the system when a trip occurs thus enabling higher management to predict behavior of operators under stress conditions.

To find out more about our other installations write to us at

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